

WHAT IS CLAIMED:

1. A radiopaque marker, comprising:
 - a) a polymer;
 - b) radiopaque particles disposed within said polymer having an average diameter of at least 2 microns and a maximum diameter of about 20 microns; and
 - c) a wetting agent for facilitating encapsulation of said particles by said polymer.
2. The radiopaque marker of claim 1, wherein said radiopaque particles comprise greater than 18 volume percent of said marker.
3. The radiopaque marker of claim 2, wherein said radiopaque particles comprise approximately 36 volume percent of said marker.
4. The radiopaque marker of claim 1, wherein said polymer comprises Pebax and said radiopaque particles comprise tungsten powder.
- 15 5. The radiopaque marker of claim 4, wherein said multi-functional polymeric additive comprises MA-g-PO.
6. The radiopaque marker of claim 1, wherein said radiopaque particles are substantially equiaxed.
- 20 7. The radiopaque marker of claim 6, wherein said particles are produced by a pusher process.
8. The radiopaque marker of claim 6, wherein said particles are produced by an atomization process, resulting in a substantially spherical particle.

9. The radiopaque marker of claim 1, further comprising an antioxidant.
10. The radiopaque marker of claim 1, wherein said polymer is thermoplastic.
11. The radiopaque marker of claim 1 formed so as to define a tubular structure.
12. A method for manufacturing a radiopaque marker, comprising:
 - a) providing a polymer, MA-g-PO and anti-oxidant (AO);
 - b) causing said polymer to melt and to become intimately intermixed with said MA-g-PO;
 - c) combining said molten polymer and wetting agent with radiopaque particles, wherein such particles comprise at least 30 volume percent of said combination and said particles have an average diameter of at least 2 microns and a maximum diameter of about 20 microns;
 - d) extruding said combination onto support beading so as to form a coating thereon; and
 - e) cutting said coating to preselected lengths.
13. The method of claim 12, wherein said polymer is caused to melt and to become intimately combined with said wetting agent by conveyance through a compounding extruder.
14. The method of claim 13, wherein said radiopaque particles are combined with said molten polymer, MA-g-PO, and AO in said compounding extruder.
15. The method of claim 12, wherein said combination is extruded such that it is drawn while supported by said beading.

16. The method of claim 12, wherein said combination is pelletized before being extruded onto said support beading.

17. The method of claim 12, wherein said polymer comprises Pebax, said radiopaque particles comprise tungsten, said multi-functional polymeric additive comprises MA-g-PO, and said anti-oxidant comprises Irganox B225.

5 18. A method of radiopaquely marking a medical device, comprising:

a) providing a flexible polymeric radiopaque marker containing greater than 30 volume percent radiopaque particles, wherein such particles have an average diameter of at least 2 microns and a maximum diameter of about 20 10 microns;

b) accurately positioning said marker on said medical device; and

c) melt bonding said marker in place.

19. The method of claim 18, further comprising disposing a length of heat shrink tubing about said accurately positioned marker and heating said tubing.

15 20. The method of claim 18, wherein said radiopaque particles comprise tungsten.

21. The method of claim 18, wherein said medical device comprises a balloon catheter and said marker is positioned on an inner member disposed within an expandable balloon.

20 22. The method of claim 18, wherein said medical device comprises a guidewire.

23. The method of claim 22, wherein a plurality of said markers are bonded to said guidewire.

24. The method of claim 23, wherein said markers are equally spaced relative to one another so as to function as ruler under fluoroscopic inspection.

25. The method of claim 23, wherein said guidewire includes a radiopaque feature and wherein said markers are each spaced a preselected distance 5 from said feature.

26. The method of claim 23, wherein said markers each have a different length so as to function as gauges under fluoroscopic inspection.

27. A device for measuring lesion sizes, comprising:

a) a guidewire; and

10 b) at least one flexible polymeric radiopaque marker is melt bonded to a distal end of said guidewire, wherein said marker contains radiopaque particles comprising at least 30 percent of its volume.

28. The device of claim 27, wherein two or more of said markers are melt bonded to said guidewire at preselected spacing relative to one another so as to 15 function as a ruler under fluoroscopic inspection.

29. The device of claim 27, wherein said guidewire includes a radiopaque feature and said marker is melt bonded a preselected distance therefrom.

30. The device of claim 27, wherein said marker has a preselected length so as to function as a gauge under fluoroscopic inspection.

20 31. The device of claim 27, wherein a plurality of said markers are bonded to said guidewire, each of a different length so as to function as a gauges under fluoroscopic inspection.

32. The device of claim 27, wherein said radiopaque particles comprise tungsten.

33. The device of claim 32, wherein a wetting agent facilitates encapsulation of said radiopaque particles by Pebax.

5 34. The device of claim 33, wherein said wetting agent comprises maleic anhydride.

35. A radiopaque, elastomeric composition, comprising:

- a) a polymer;
- b) radiopaque particles disposed within said polymer having an 10 average diameter of at least 2 microns and a maximum diameter of about 20 microns; and
- c) a wetting agent for facilitating encapsulation of said particles by said polymer.

36. The composition of claim 35, wherein said radiopaque particles 15 comprise greater than 18 volume percent of said marker.

37. The composition of claim 36, wherein said radiopaque particles comprise approximately 36 volume percent of said marker.

38. The composition of claim 35, wherein said polymer comprises Pebax and said radiopaque particles comprise tungsten powder.

20 39. The composition of claim 38, wherein said multi-functional polymeric additive comprises MA-g-PO.

40. The composition of claim 35, wherein said radiopaque particles are substantially equiaxed.

41. The composition of claim 40, wherein said particles are produced by a pusher process.

42. The composition of claim 41, wherein said particles are produced by an atomization process, resulting in a substantially spherical particle.

5 43. The composition of claim 35, further comprising an antioxidant.

44. The composition of claim 35, wherein said polymer is thermoplastic.

45. The composition of claim 35 formed so as to define a tubular structure.